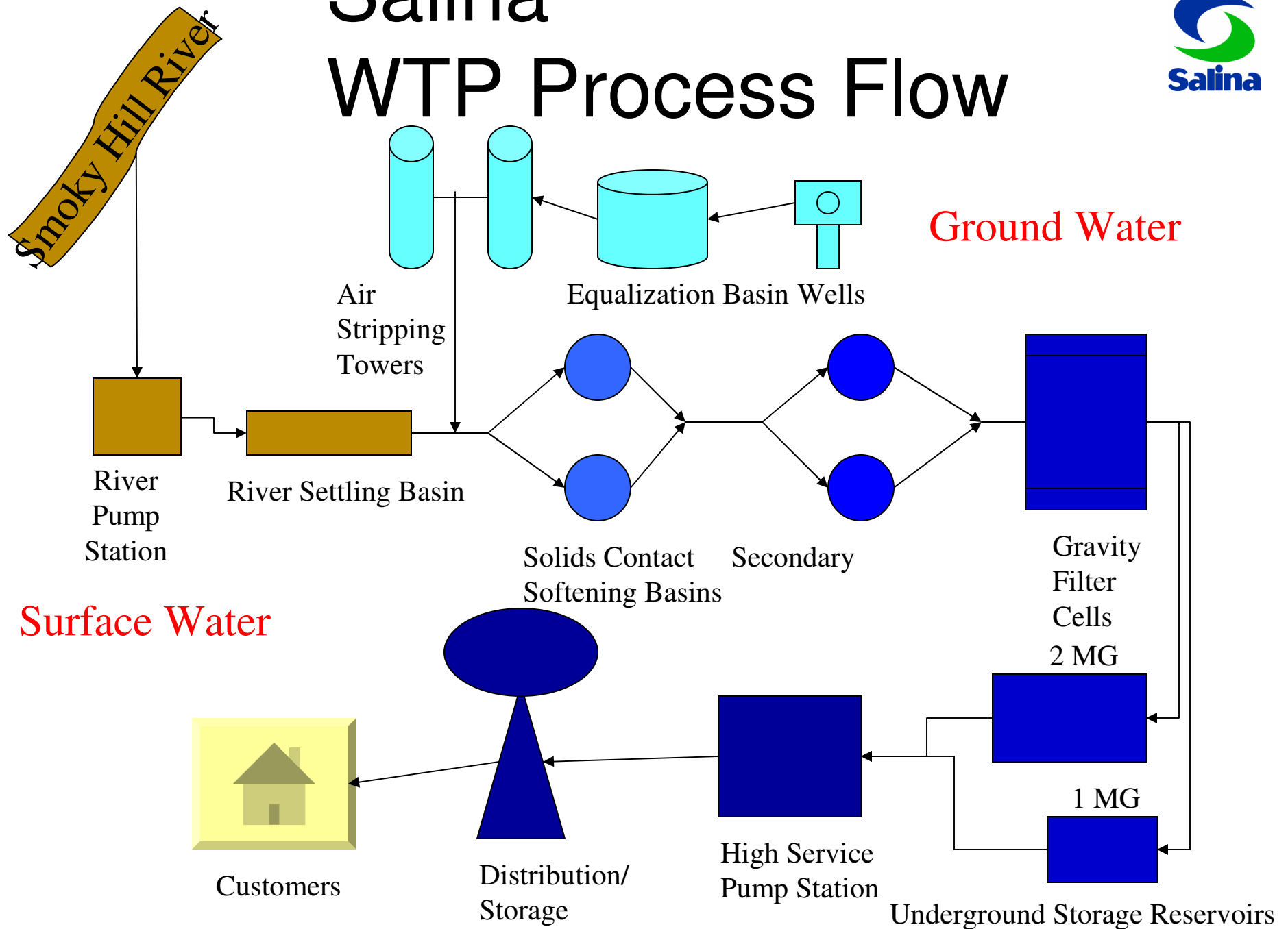


Water for Salina



City of Salina
Martha Tasker, Director of Utilities
March 11, 2007

Salina WTP Process Flow



Water System Load Balancing

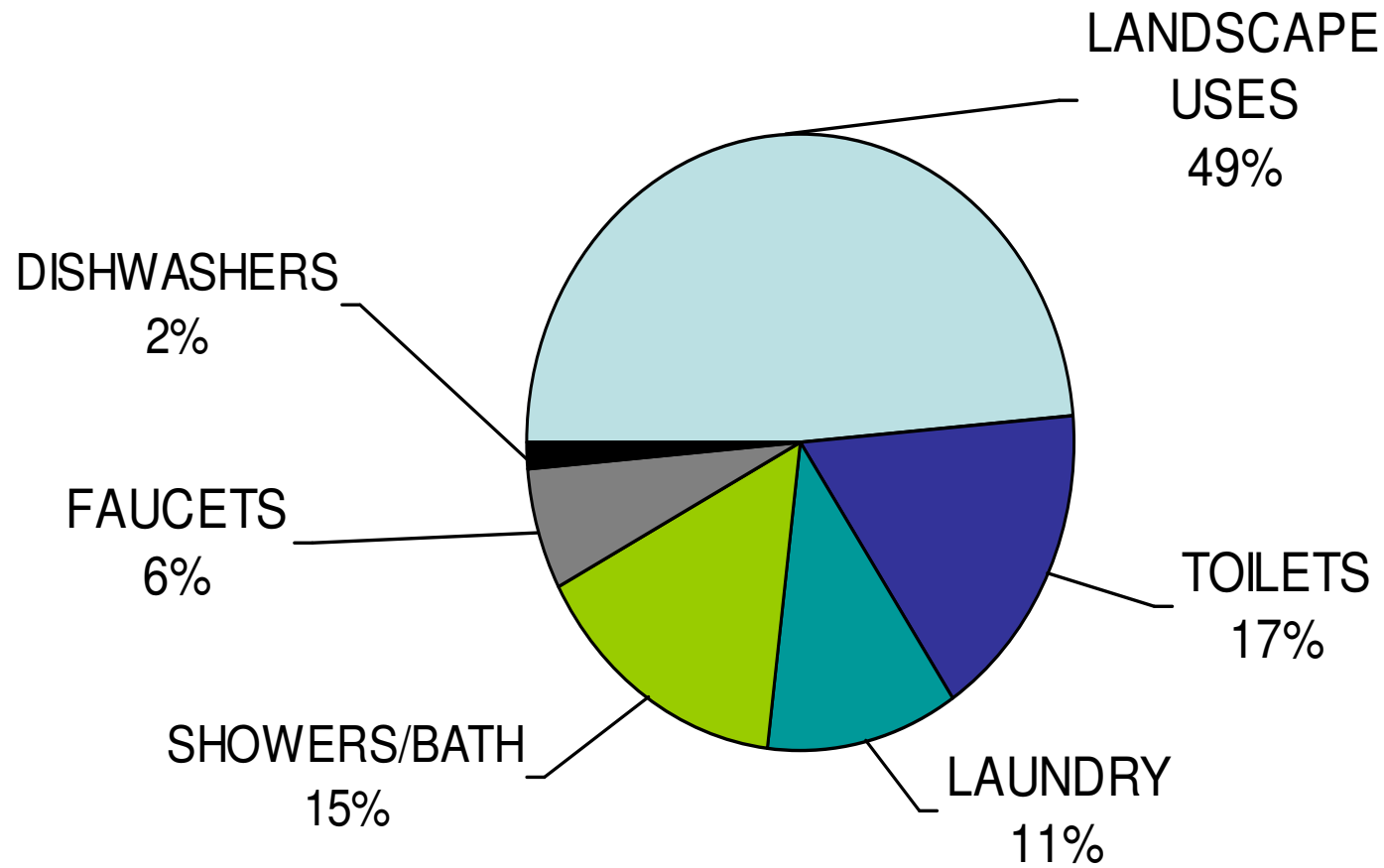
- **Typical Summer Operation**
 - **60% Surface Water from the Smoky Hill River**
 - **40% Groundwater from wells**
- **River Water**
 - **More cost effective to treat**
 - **Conserve groundwater levels**
 - **Comply with available water rights**
 - **Variable flow rates**
- **Well Water**
 - **More costly to treat (hardness)**
 - **Slow recharge rate**
 - **Long-term supply (slow change of groundwater levels)**

Sequence of Events

- **July 17 – Peak Day at 12.1 mgd**
- **July 21 – Water Watch declared (9-10 mgd)**
- **July 26 – Water Emergency declared**
- **July 27 – DWR administer water rights (7.1 mgd)**
- **July 31 – Downgraded to Water Warning (7.3 mgd)**
- **Aug 4 – Irrigators pumping**
- **Aug 31 – DWR rescinded legal notice (Not administering water rights)**
- **Sept 18 -City Commission modified Water Warning Restrictions**

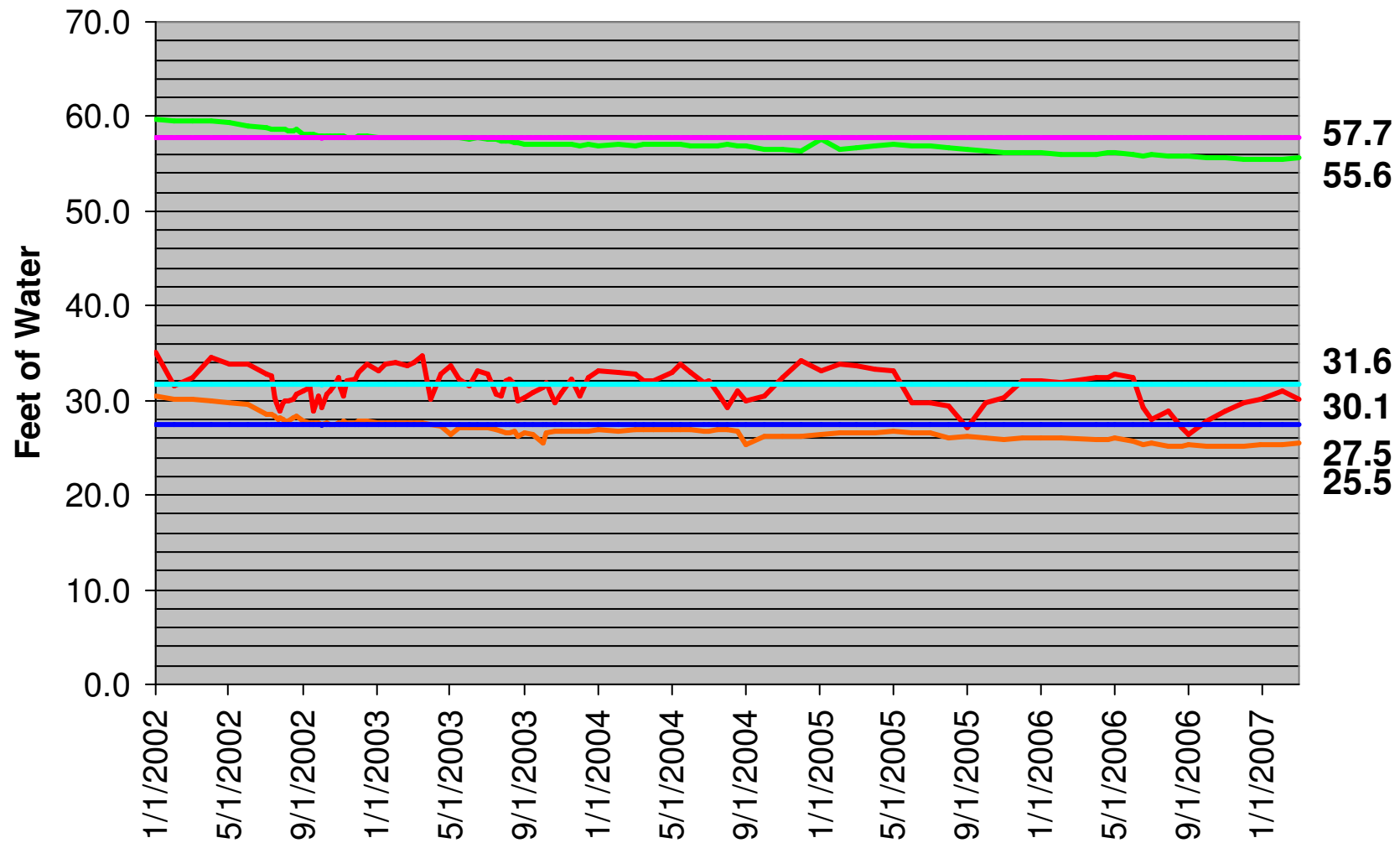
TYPICAL RESIDENTIAL SUMMER WATER USE

BY FUNCTION



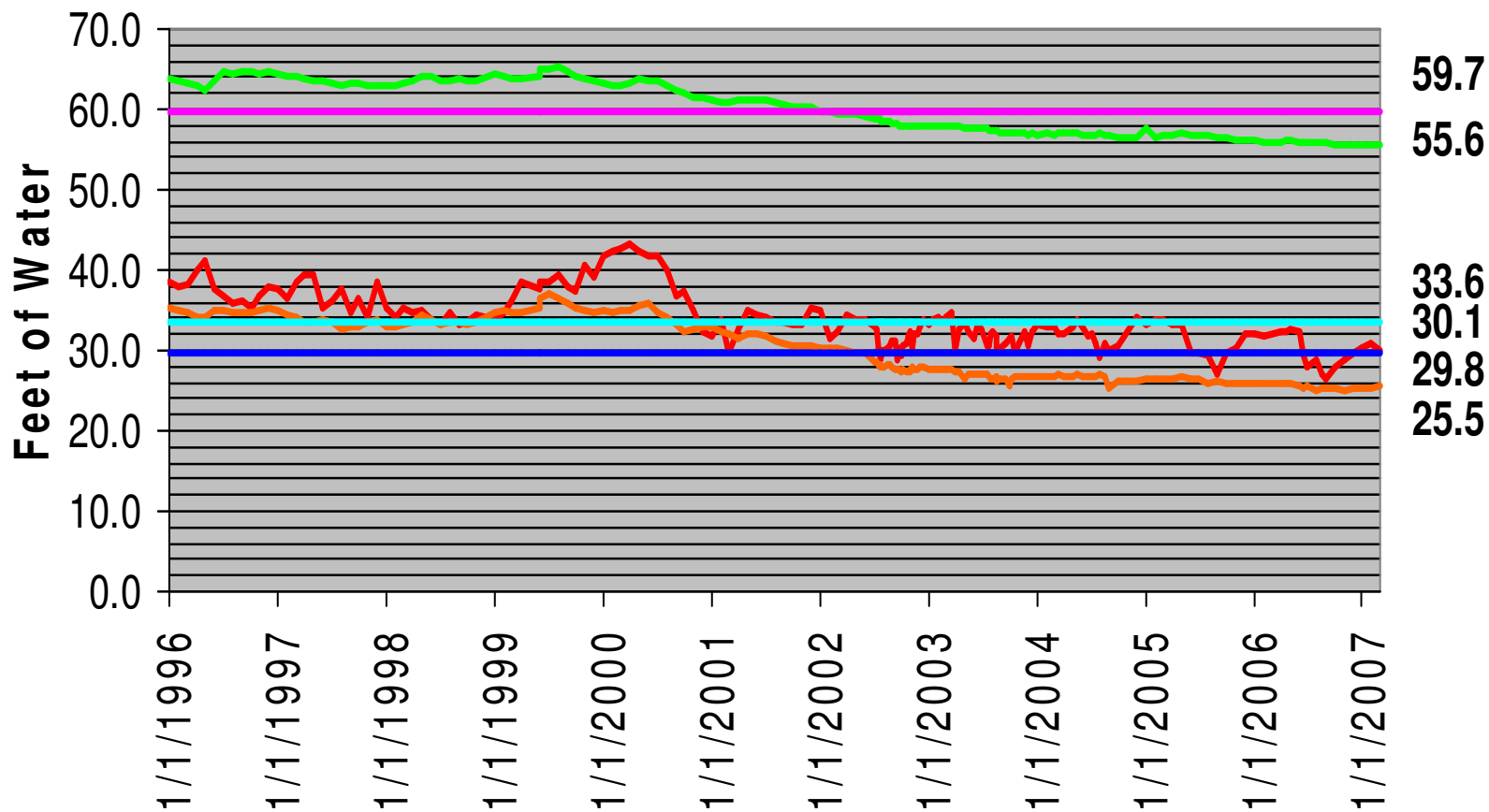
Observation Wells 5 yrs vs 5 yr Average

- Oakdale
- KWU
- Ohio
- Oakdale Avg
- KWU Avg
- Ohio Avg

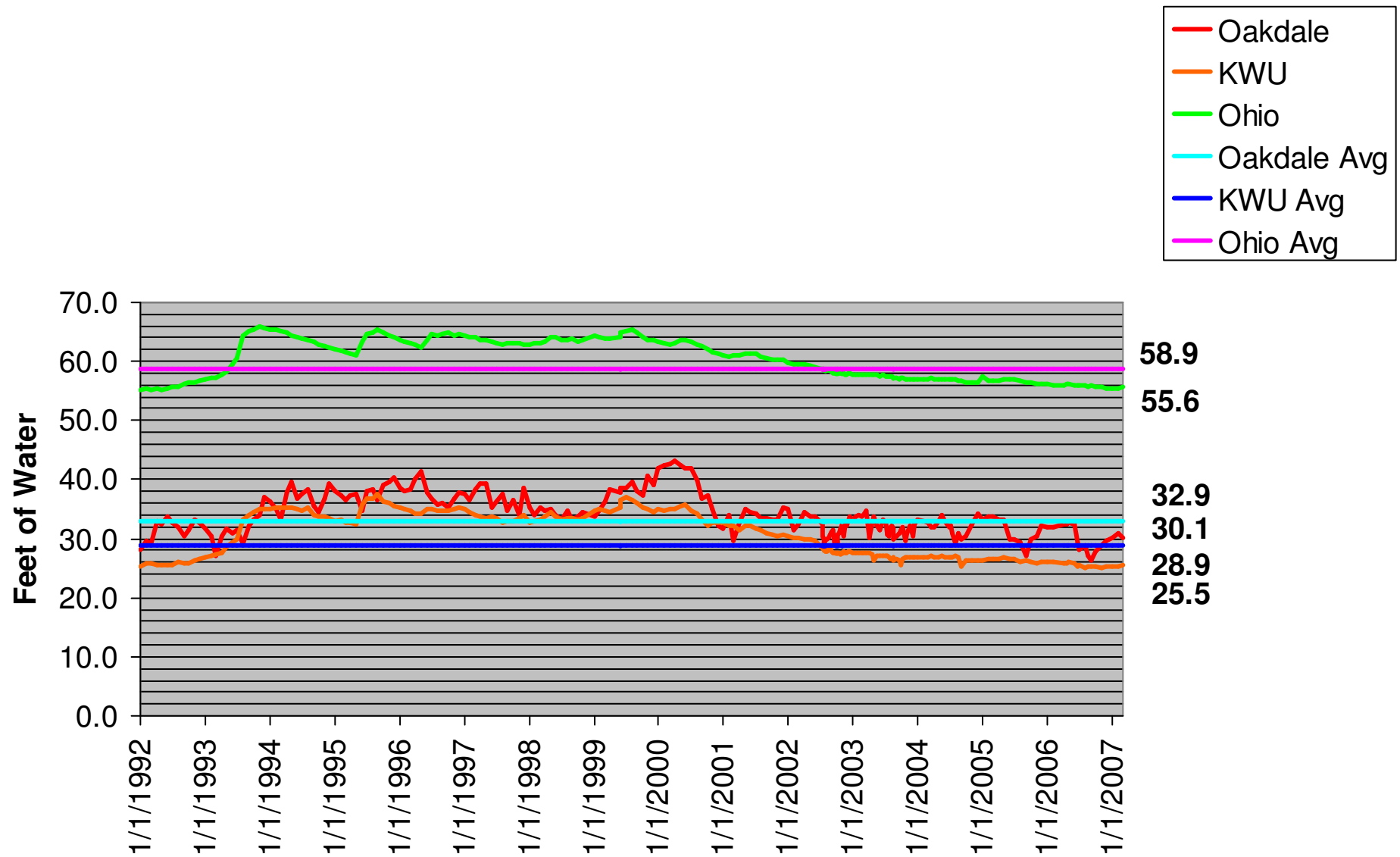


Observation Wells 10 yr vs 10 yr Average

- Oakdale
- KWU
- Ohio
- Oakdale Avg
- KWU Avg
- Ohio Avg

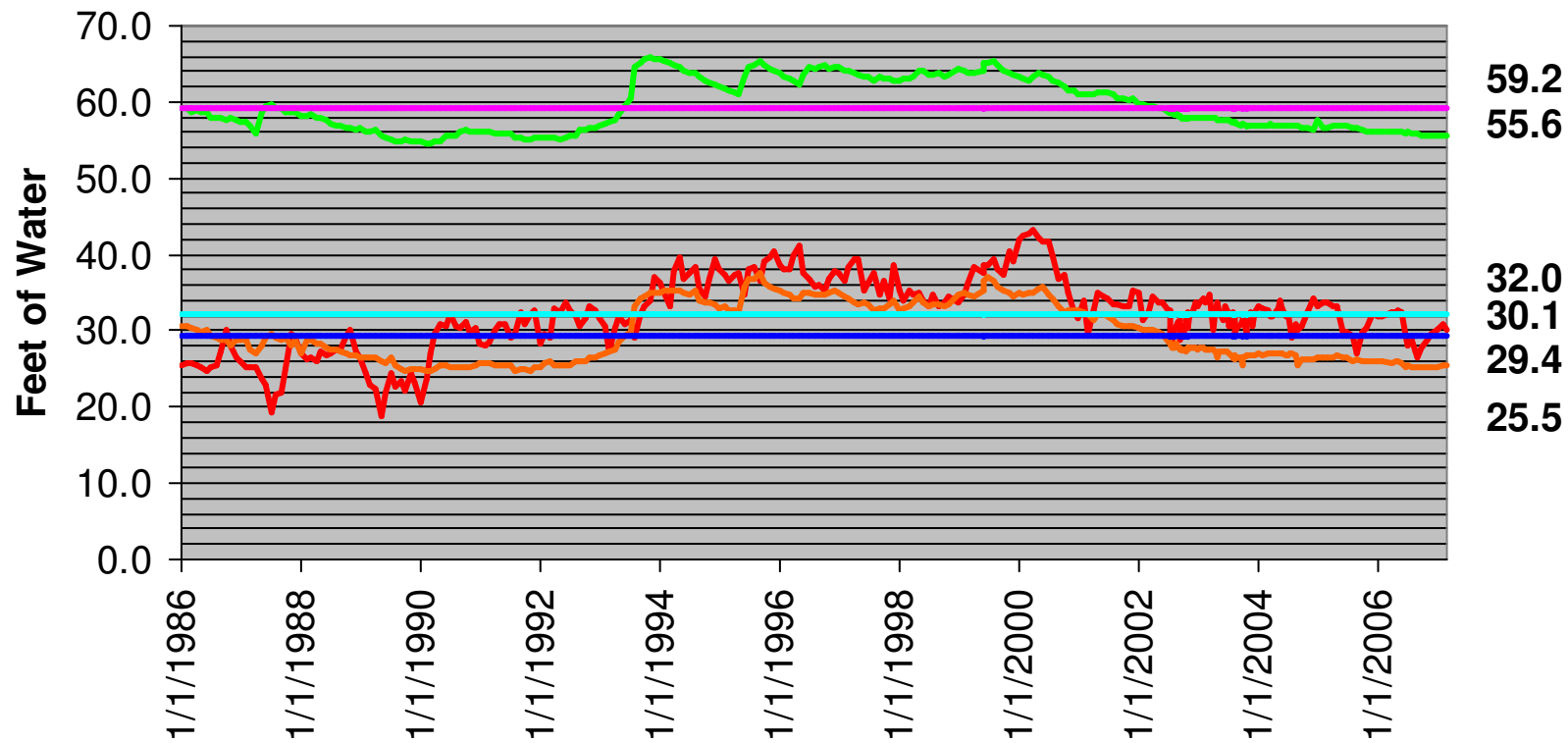
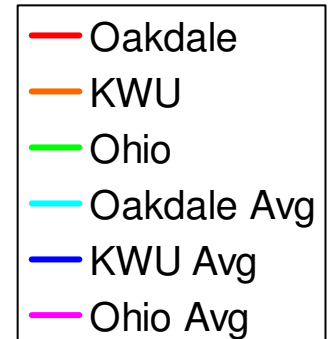


Observation Wells 15 yr vs 15 yr Average

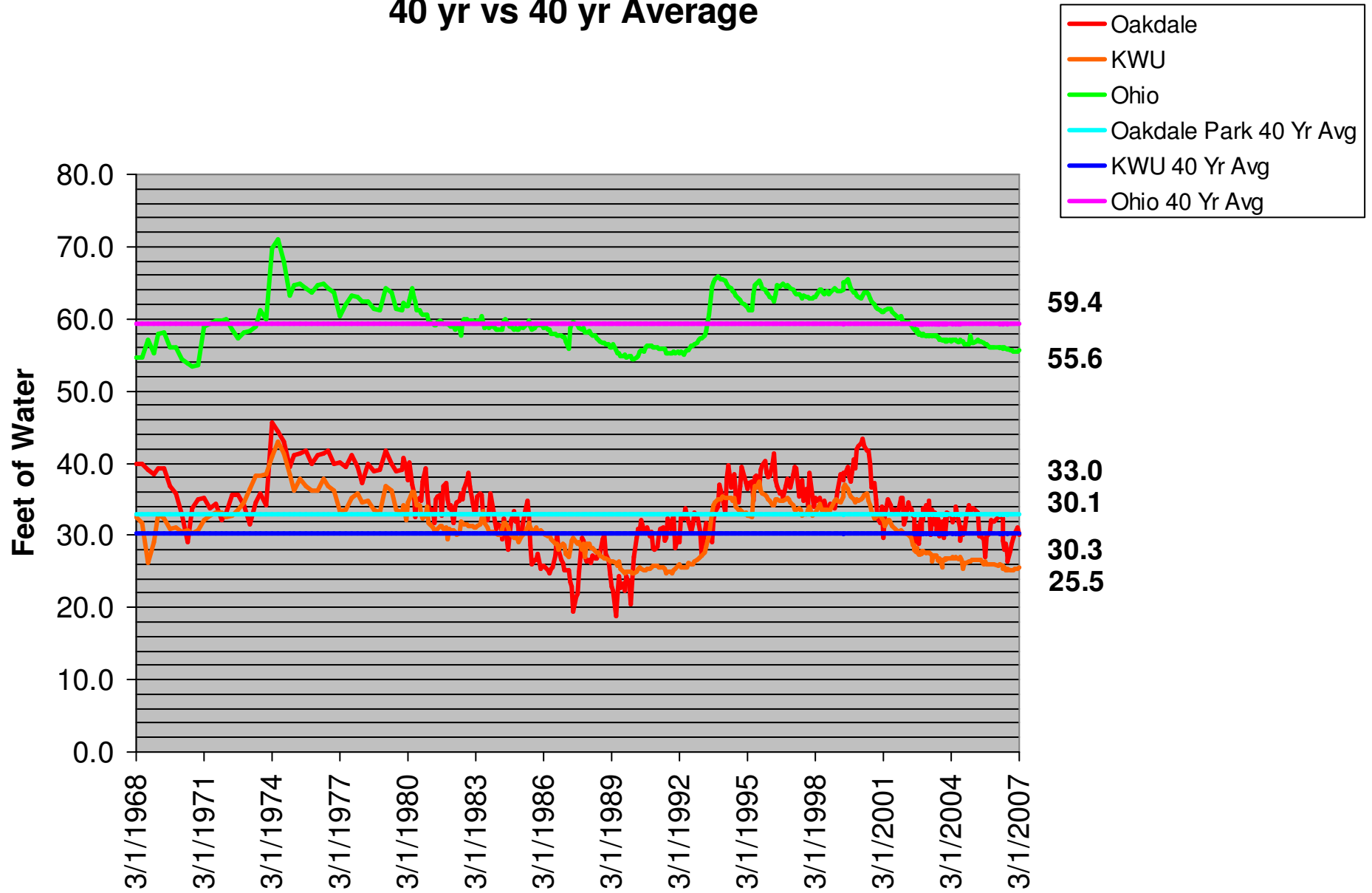


Observation Wells

20 yr vs 20 yr Average



Observation Wells 40 yr vs 40 yr Average



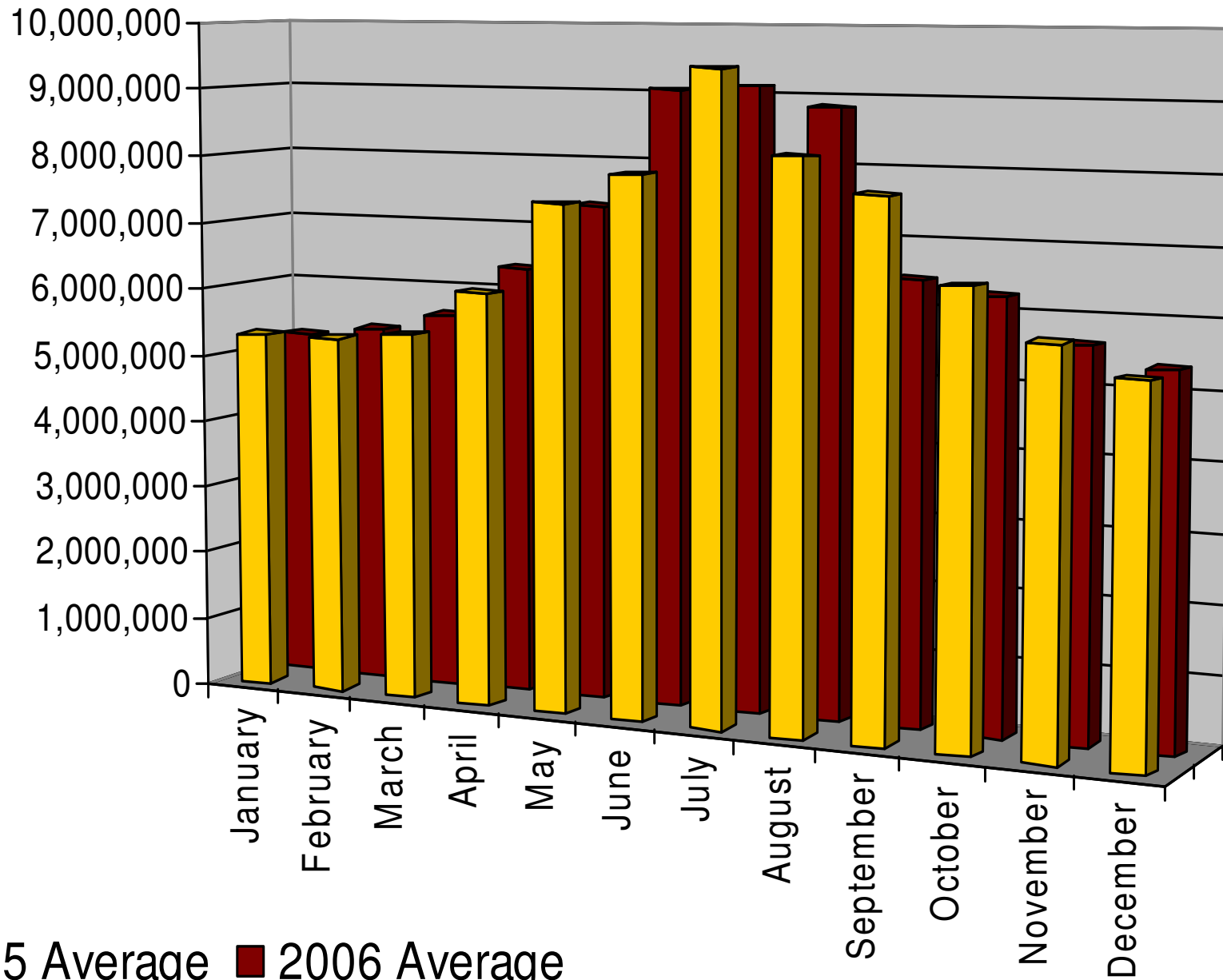
Current Feet of Water Below Average of X Number of Years

OBSERVATION WELL	5 YEARS	10 YEARS	15 YEARS	20 YEARS	40 YEARS
OHIO	2.1	4.1	3.3	3.6	3.8
OAKDALE	1.5	3.5	2.8	1.9	2.9
KWU	2.0	4.3	3.4	3.9	4.8
AVG	1.9	4.0	3.2	3.1	3.8

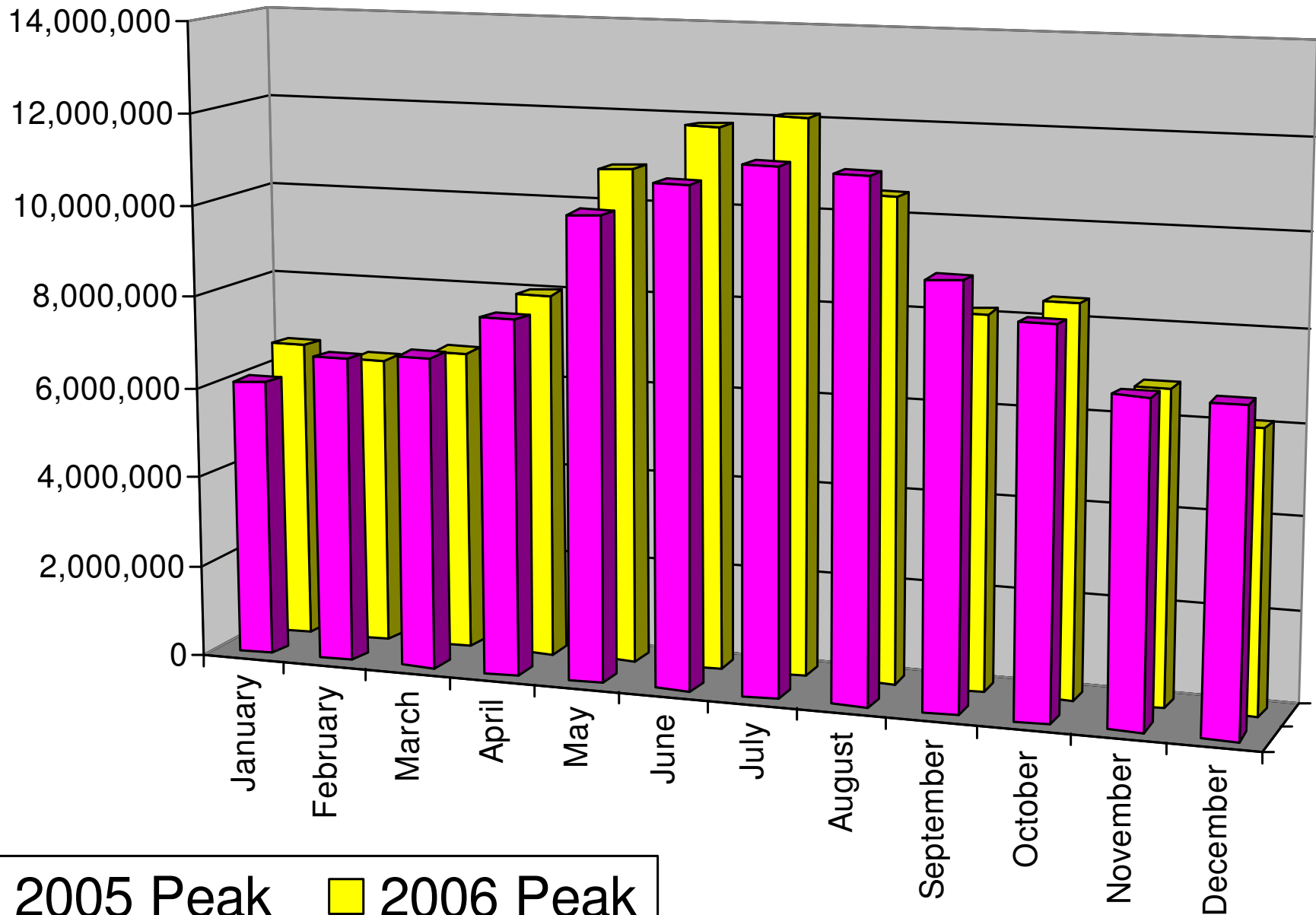
Kanopolis Reservoir Minimum Release Criteria

- Month
- January – February 10 cfs
- March 15 cfs
- April 20 cfs
- May 30 cfs
- June - September 50 cfs
- October 25 cfs
- November 15 cfs
- December 10 cfs

2005 and 2006 Average Water Use



2005 and 2006 Peak Water Use



Regional Water Consumption

Gallons Per Person Per Day

Public Water Supplier	GPCD
Derby (El Paso Water Co.)	102
Newton	108
Topeka	123
Salina	126
Arkansas City	130
Winfield	134
Independence	135
Manhattan	144
Wichita	146
Junction City	151
El Dorado	166
McPherson	166
Emporia	172
Coffeyville	177
Average	141

Current Water Restrictions

- **Watering of grass allowed twice per week based upon three (3) geographical zones in Salina.**
 - **North Zone: North Salina to Crawford -Tuesday and Friday.**
 - **Middle Zone: Crawford to Magnolia - Wednesday and Saturday.**
 - **South Zone: Magnolia to South Salina - Thursday and Sunday.**
 - **No grass watering permitted on Monday.**
 - **No watering between 10:00 A.M. and 6:00 P.M.**
- **Flowers, plantings and/or vegetable gardens: No watering between 10:00 A.M. and 6:00 P.M.**
- **Commercial/Industrial owners will be allowed to preserve vegetation required by the City's landscaping ordinance.**
- **Limit waste of water. This includes, but is not limited to permitting water to escape down a street, ditch or other surface drain or failure to repair a controllable leak of water due to defective plumbing.**

Possible Water Restrictions

- **Odd/Even:**
 - **House numbers with Odd numbers- Water Friday and Saturday**
 - **House numbers with Even numbers– Water Sunday and Monday**
 - **City of Salina facilities: Water Tuesday, Wednesday, Thursday**
- **Watering hours: No watering between 11:00 a.m. and 7:00 p.m.**
- **Flowers, plantings and/or vegetable gardens: No watering between 11:00 a.m. and 7:00 p.m.**
- **Commercial/Industrial owners will be allowed to preserve vegetation required by the City's landscaping ordinance.**
- **Limit waste of water. This includes, but is not limited to permitting water to escape down a street, ditch or other surface drain or failure to repair a controllable leak of water due to defective plumbing.**

ON GOING ISSUES

- Groundwater Contamination
 - Schilling Air Force Base
 - Downtown Well Field
- Request Federal and State Agencies to continue current practice of Minimum Release from Kanopolis Lake

Priority 1

July 2006 – May 2007

- Update Municipal Water Conservation Plan – Drought/Emergency Contingency
- Water Conservation Tier Rates
- Xeriscaping Landscape Requirements
- Groundwater Well Field Evaluation
- Water Supply Study – Request for Qualifications
- Water Restrictions and Enforcement Plan

Priority 2

June 2007 – December 2008

- Inventory private domestic wells within City Limits
- Select Consultant/Complete Water Supply Study (2050)
 - Groundwater Recharge
 - Additional Wells
 - Water Right Purchase (Surface and Groundwater)
 - Water Storage Purchase – Kanopolis or Other Area Lake
 - Water Storage Facility
 - Rehabilitate South Well Field
 - Water Treatment Plant for South Well Field
- Low flow showers/toilets and etc.
- Water Conservation Plan

A large, solid red oval with a thin black outline, centered on a white background. Inside the oval, the text "CONSERVATION OF WATER STARTS WITH YOU!" is written in white, bold, uppercase letters, arranged in four lines.

**CONSERVATION
OF WATER
STARTS WITH
YOU!**